

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 6,401,824 B1  
DATED : June 11, 2002  
INVENTOR(S) : Jeffrey D. Musselwhite et al.

Page 1 of 2

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 3,

Line 3, after "check valves", change "closed or activated" to -- open or deactivated --.  
Line 5, after "check valves", add -- closed or activated. --.  
Line 12, after "cemented" change "n" to -- in --.  
Line 29, after "shown" delete "seated on a catcher/seat 23A" and substitute the following -- in its dropped status on the way to being seated on the catcher portion 35. --.  
Lines 50 and 51, after "jet openings 33" delete "and 33A".

Column 4,

Line 2, after "jets" change "33A" to -- 33 --.  
Line 34, change "trough" to -- through --.  
Line 37, change "acing" to -- facing --.  
Line 60, change "trough" to -- through --.

Column 5,

Line 27, change "sting" to -- string, --.  
Line 43, change "trough" to -- through --.  
Line 44, change "aid" to -- and --.

Column 6,

Line 30, change "aid" to -- and --.  
Line 62, change "lowing said tabular" to -- lowering said tubular --.

Column 8,

Line 16, change "remain remain" to -- remain --.

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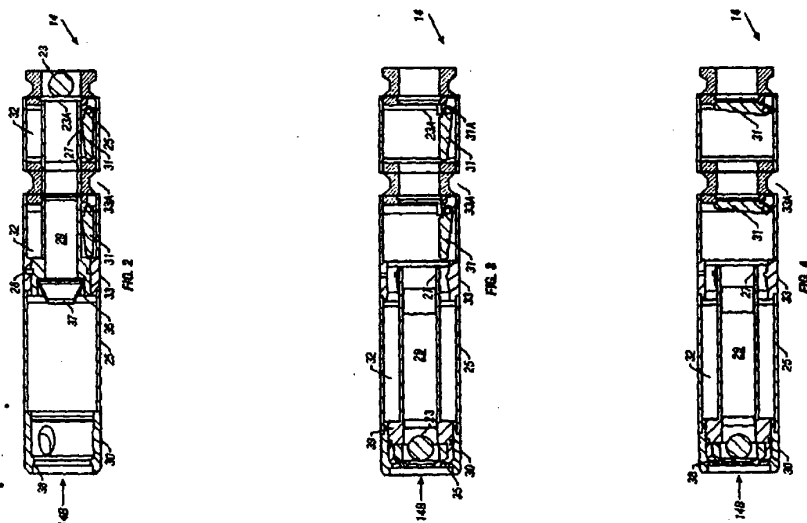
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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Drawings.

Figs. 2, 3 and 4, the drawings are rotated showing the correct placement of the top end 14 of each of the figures.



Signed and Sealed this

Thirty-first Day of December, 2002

JAMES E. ROGAN  
Director of the United States Patent and Trademark Office